KUPRIN, A.M.

Study of topographical maps in schools. Geog. v shkole 25 no.2: 28-31 Mr-Ap '62. (MIRA 15:2)
(Maps, Topographic)

SALYAYEV, S.A., kand. tekhn. nauk; KUPRIN, A.M., podpolkovnik; MURZAYEV, N.I., red.; YEL'SKAYA, Ye.A., tekhn. red.

[Determining the coordinates of targets by a map] Opredelenie koordinat tselei po karte. Moskva, Voenizdat, 1964. 62 p. (MIRA 17:3)

RUDIN, Naum Grigor'yevich; KUPRIN, A.V., retsenzent; GOL'DSHTEYN, Kh. A. redaktor; MEDVEDEVA, L.A., tekhnicheskiy redaktor

[Guide to a knowledge of color] Rukovodstvo po tsvetovedeniiu. Moskva, Gos. nauchno-tekhn. izd-vo M-va legkoi promyshl. SSSR, 1956. 45 p. and 25 plates (in portfolio) (MLRA 10:5)

1. Chlen-korrespondent Akademii khudozhestv SSSR. (for Kuprin) (Color)

YERMAKOVICH, D.V.; KUPRIN, B.D.

Device for measuring deformations in road structures. Trudy Khar. avt.-dor. inst. no.28:26-29 '62. (MIRA 17:2)

KUPRIN, B.V. (Moskva)

Decreasing the momentum gathering time of asynchronous motors. Izv. AN SSSR, Otd. tekh.nauk.Energ. i avtom. no.4:145-148 Jl-Ag '60. (MIRA 13:8)

(Electric motors, Induction)

1. KUPRIN, M.

2. USSR (600)

4. Radio Operators

7. Radio amateurs, members of the All-Union Volunteer Society for Assistance to the Army, Aviation and Navy, of the "Borets" collective farm, Radio, No. 1, 1953.

9. **Monthly List of Russian Accessions**, Library of Congress, May 1953. Unclassified.

PASYNOK, M.V.; FRISH, V.A. (Sverdlovsk); KUPRIN, M.

Letters to the editor. Geog.v shkole 24 no.3:65-68 My-Je '61.
(MIRA 14:5)

1. Nedryanskaya shkola Kiyevskiy oblasti (for Pasynok). 2. 14-ya shkola g. Kurgana (for Kuprin).
(Physical geography—Study and teaching)

ANTONOV, Sergey Pavlovich; BOYARSHINOV, Mikhail Ivanovich; KUPRIN, Mikhail Ionovich; PIMENOV, Aleksandr Fedorovich; RADYUKEVICH, Leonid Vladimirovich; SHAKIROV, Nur Mazitovich;

[Cold sheet-steel rolling] Kholodnaia prokatka zhesti. Moskva, Metallurgiia, 1965. 266 p. (MIRA 18:3)

PAVLOV, I.M.; KUPRIN, M.I., kandidat tekhnicheskikh nauk.

Investigating friction during hot rolling of steel. Sbor.Inst. stali no.33:154-192 '55. (MLRA 9:6)

1.Chlen-korrespondent AN SSSR (for Pavlov).2.Kafedra prokatki. (Rolling (Metalwork)) (Surfaces (Technology))

Kuprin, M.I.

137-1958-2-2775

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 81 (USSR)

AUTHOR: Kuprin, M.I.

TITLE: The Effect of the Sliding Velocity on the Coefficient of Friction in Hot Rolling (Vliyaniye skorosti skol'zheniya na velichinu koeffitsiyenta treniya pri goryachey prokatke)

PERIODICAL: Sb. nauchn. tr. Magnitogorskiy gornometallurg. in-t, 1957, Nr 11, pp 238-248

ABSTRACT: A study was made of the relation of the coefficient of friction to the sliding velocity under conditions approximating those of hot rolling. The friction coefficient was determined by applying back tension on a strip passing between the rolls and was computed from the formula

$$f = (T + 2R R_y \tan \alpha/2) / (2R_y - T \tan \alpha/2),$$

wherein T is the back-tension force (kg) required to keep the strip from being drawn into the rolls, R_y the vertical roll-separating force (kg), and α the angle of rolling engagement. The study was conducted on a laboratory mill having rolls 122 mm in diameter. The rolls were made from steel 9Kh, with an H_{sh}

Card 1/2

137-1958-2-2775

The Effect of the Sliding Velocity on the Coefficient of Friction (cont.)

of 95. The roll body was crudely polished and exhibited a surface roughness similar to that of the grooved roughing rolls of section mills. The experiments revealed that in all of the cases considered the relation of the coefficient of friction to the sliding velocity had common qualitative characteristics: as the sliding velocity rose from zero, the friction coefficient increased, attaining its maximum when the sliding velocity stood at 0.2 - 0.5 m/sec, declining when the sliding velocity increased further. When the temperatures of the specimens were high and the sliding velocity > 2.5 m/sec, the friction changed to a regimen accompanied by marked wear of the surface of the specimen and a sharp drop in the coefficient of friction; increasing the surface roughness of the rolls accelerated the transition to that type of friction. The effect of the sliding velocity on the friction coefficient was most pronounced in the case of mild steels possessing a fairly high friction coefficient, at temperatures corresponding to the latter's maximum value.

S.G.

1. Rolling mills--Applications 2. Friction--Mathematical analysis
3. Velocity--Effects

Card 2/2

BOYARSHINOV, M.I., prof.; KURDYUMOVA, V.A., dotsent; KUPRIN, M.M., dotsent; SHTERNOV, M.M., kand.tekhn.nauk; SHULAYEV, I.P., inzh.; ROKOTYAN, Ye.S., prof., doktor tekhn.nauk

"Rolling mill practice" by P.I. Polukhin and others. Stal' 22 no.7:633-635 Jl '62. (MIRA 15:7)

1. Magnitogorskiy gorno-metallurgicheskiy institut i Magnitogorskiy metallurgicheskiy kombinat (for Boyarshinov, Kurdyumova, Kuprin, Shternov, Shulayev). 2. Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut metallurgicheskogo mashinostroyeniya (for Rokotyan).

(Rolling (Metalwork))
(Polukhin, P.I.)

KUTRIN, M.Ya

Agriculture - study and teaching

Preparing rural school students for future practical work. Fiz.v shkole 12NO. 2, 1952

Monthly List of Russian Accessions, Library of Congress, May 1952. Unclassified.

KUPRIN, M.Ya.

Acquainting students with T.S. Mal'tsev's system of soil cultivation and sowing. Est.v shkole no.1:63-65 Ja-F '56.(MLRA 9:5)

1. Zaveduyushchiy uchebnoy chast'yu sredney shkoly No. 14 goroda Kurgana.

(Agriculture--Study and teaching)

KUPRIN, N.L. (poselok Simeiz. Krymskaya obl., ul. Morskaya, d. 6, kv. 1)

Improved catheter for bronchospirometry. Grud.khir. no.4:114-115 Jl-Ag '62. (MIRA 15:10)

1. Iz khirurgicheskoy kliniki (zav. - prof. A.G.Gil'man) Instituta meditsinskoy klimatologii i klimatoterapii imeni I.M.Sechenova (dir. B.V.Borutskiy), Yalta.

(CATHETERS)
(SPIROSCOPE AND SPIROSCOPY)

KUPRIN, P.

SEMENENKO, P.; KUPRIN, P.

Laboratory work in a trade school. Prof.-tekh.obr. 11 no.9:16-19 D '54. (MLRA 8:1)

1. Direktor remeslennogo uchilishcha No.1 (Dnepropetrovskaya oblast') (for Semenenko); 2. Zamestitel' direktora po uchebno-proizvodstvennoy chasti (for Kuprin).
(Technical education)

SEMENENKO,P.; KUPRIN,P.

Future innovators. Prof.-tekh.obr.12 no.9:14-15 S'55. (MLRA 8:11)

1. Direktor remeslennogo uchilishcha no.1, Dnepropetrovskaya oblast' (for Semenenko). 2. Zamestitel' direktora po uchebno-proizvodstvennoy chasti (for Kuprin).
(Dnepropetrovsk Province--Technical education)

KUPRIN, P., starshiy inzh.

They work in the communist way. Prof.-tekh. obr. 19 no.6:18 Je '62. (MIRA 15:7)

1. Martenovskiy tsekh No.3 Dneprovskogo metallurgicheskogo zavoda imeni Dzerzhinskogo.
(Dneprodzerzhinsk—Steel industry)

KUPRIN, P.

Establishing norms for the stocks of equipment and materials as well as working capital on collective farms. Den. i kred. 20 no.2:41-45 F '62. (MIRA 15:2)
(Collective farms--Finance)

KRASOV, A.F.; KUPRIN, P.A.; ISAKOVICH, D.L.

In the country's steel smelting plants. Metallurg 9 no.5:24-26 My '64. (MIRA 17:8)

15-57-4-4343

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 4, p 45 (USSR)

AUTHOR: Kuprin, P. N.

TITLE: Structural Relations of the Cenozoic and Mesozoic Deposits in the Achisinskoye Deposit of Southern Dagestan (Sootnosheniye v stukture kaynozoyskikh i mezozoyskikh otlozheniy na Achisinskom mestorozhdenii Yuzhnogo Dagestana)

PERIODICAL: Novosti neft. tekhn. Geologiya, 1956, Nr 1, pp 17-20

ABSTRACT: A marked unconformity between the Paleogene-Mesozoic and the Miocene has been established on the Achisinskaya fold. In the Miocene the fold forms an asymmetrical brachyanticline. The limb of the anticline is complicated by a reverse fault with an 800 m throw; the fault plane dips at an angle of 60° to 70° to the southwest. The lower complex (the Paleogene-

Card 1/2

Structural Relations of the Cenozoic and Mesozoic Deposits (Cont.)

Mesozoic) forms a large asymmetrical flat anticline 450 m high. Its crest is displaced 2 km to the east in respect to the crest of the upper complex. A directional unconformity in the location of the folds is observed.

Card 2/2 N. A. E.

KUPRIN, P.N.

"Landslide tectonics" of the Ser-Dogar Range in southern Daghestan.
Vest.Mosk.un.Ser.biol.,pochv.,geol.,geog. 11 no.2:139-146 '56.
(MIRA 10:10)
1. Kafedra geologii i geokhimii goryuchikh iskopayemykh.
(Derbent region--Landslides)

KUPRIN, P.N.

Oil-and gas-bearing prospects of the Kara-Bogaz-Gol region. Geol. nefti 1 no.9:14-21 S '57. (MLRA 10:9)

1. Moskovskiy gosudarstvennyy universitet.
(Kara-Bogaz-Gol region--Gas, Natural--Geology)
(Kara-Bogaz-Gol region--Petroleum geology)

KUPRIN, P.N.

Activity of the department of Geology and Geochemistry of Mineral Fuels of the Geology Faculty of the Moscow University in Ciscaucasia and Turkmenia. Izv. vys. ucheb. zav.; geol. i razv. 1 no.8:131-132 Ag '58. (MIRA 12:9)
(Caucasus, Northern--Geology, Economic)
(Turkmenistan--Geology, Economic) (Fuel)

KUPRIN, P.N.

"Oil-field geophysics for geologists" by S.S. Itenberg. Reviewed by P.N. Kuprin. Izv.vys.ucheb.zav.; neft' i gaz 1 no.9:30,40,46,52 '58. (MIRA 11:12)

(Prospecting--Geophysical methods)
(Itenberg, S.S.)

KUPRIN, P.N.

Tectonic structure of the Porsocup plateau. Nauch.dokl.vys.shkoly; geol.-nauki no.4:33-39 '58. (MIRA 12:6)

1. Moskovskiy universitet, geologicheskiy fakul'tet, kafedra goryuchikh iskopayemykh.
(Kara-Bogaz region--Geology, Structural)

KUPRIN, P.N.; NESMEYANOV, D.V.; SEREGIN, A.M.; BROD, I.O., prof., doktor geologo-mineral.nauk, red.; MISHUNINA, Z.A., nauchnyy red.; SEGAL', Z.G., vedushchiy red.; GENNAD'YEVA, I.M., tekhn.red.

[Transactions of the General Southern Geological Expedition]. Trudy Kompleksnoi iuzhnoi geologicheskoi ekspeditsii. Pod red. I.O.Brods. Leningrad, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry. Leningr.otd-nie. No.4. [Geology and oil and gas potentials of the southern U.S.S.R.; Daghestan] Geologiia i neftegazonosnost' IUga SSSR; Dagestan. 1959. 431 p. (MIRA 13:5)

1. Kompleksnaya yuzhnaya geologicheskaya ekspeditsiya, 1956-. 2. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova (for Kuprin, Nesmeyanov, Seregin). 3. Kompleksnaya yuzhnaya geologicheskaya ekspeditsiya (KYUGE) AN SSSR (for Nesmeyanov).
(Daghestan--Petroleum geology)
(Daghestan--Gas, Natural--Geology)

IMASHEV, N.U.; KUPRIN, P.N.; SEMOV, V.N.

Geology, oil and gas potentials of the Uzen' anticline and adjacent regions in the Mangyshlak steppes. Geol.nefti i gaza 6 no.3:7-13 Mr '62. (MIRA 15:4)

1. Zapadno-Kazakhstanskoye geologicheskoye upravleniye i Moskovskiy gosudarstvennyy universitet.
(Mangyshlak Peninsula—Petroleum geology)
(Mangyshlak Peninsula—Gas, Natural—Geology)

KUPRIN, P.N.; MIRZAKHANOV, M.K.

New data on the basement structure of the southern Kara-Bogaz -Gol region. Biul.MOIP.Otd.geol. 37 no.2:5-23 Mr-Ap '62. (MIRA 15:7)

(Kara-Bogaz-Gol (Gulf)—Geology, Structural)

BROD, I.O.; ALEKSIN, A.G.; BELOV, K.A.; KUPRIN, P.N.; NESMEYANOV, D.V.; POL'STER, L.A.; TSATUROV, A.I.

Middle Caspian oil- and gas-bearing basin; appearance of regularities in the spread of oil and gas accumulations in central and eastern Ciscaucasia and in the Kara-Bogaz region. Zakonom. razm. polezn. iskop. 5:483-535 '62. (MIRA 15:12)

1. Kompleksnaya neftegazovaya geologicheskaya ekspeditsiya AN SSSR, Moskovskiy gosudarstvennyy universitet, Komitet po koordinatsii nauchno-issledovatel'skikh rabot pri Sovete Ministrov SSR i Stavropol'skiy i Checheno-Ingushskiy sovety narodnogo khozyaystva.
(Caspian Sea region—Petroleum geology)
(Caspian Sea region—Gas, Natural—Geology)

KUPRIN, P.N.

Basic characteristics of the history of geological development of the eastern anticlinal zone in southern Daghestan. Izv.vys.uchab.zav.; geol.i razv. 6 no.3:36-45 Mr '63. (MIRA 16:5)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
(Daghestan—Geology)

KUPRIN, P.N.; ARKHIPOV, A.Ya.

Outlook for finding oil and gas in the northern foothills of the western Kopet-Dag. Geol. nefti i gaza 7 no.5:16-22 My '63. (MIRA 16:6)

1. Moskovskiy gosudarstvennyy universitet.
(Kopet-Dag region--Petroleum geology)
(Kopet-Dag region--Gas, Natural--Geology)

KUPRIN, P.N.; ARKHIPOV, A.Ya.; MIRZAKHANOV, M.K.

New data on the geology of the western part of the Porsokupskoye Plateau in the southern Kara-Bogaz-Gol region in connection with oil and gas potentials. Vest.Mosk.un.Ser. 4:Geol. 18 no.2:37-49 Mr-Ap '63. (MIRA 16:5)

1. Kafedra geologii i geokhimii goryuchikh iskopayemykh Moskovskogo universiteta.

(Kara-Bogaz-Gol (Gulf) region—Geology)

KUPRIN, P.N.; SEMOV, V.N.

Structural position and basic characteristics of the structure of the Zhetybay-Uzen' anticlinal zone. Sov. geol. 7 no.8: 79-94 Ag '64. (MIRA 17:10)

1. Moskovskiy gosudarstvennyy universitet.

VYSOTSKIY, I.V., otv. red.; KOMYUKHOV, I.A., red.; KUPRIN, P.N., red.; MARTYNOV, Ye.G., red.; OLENIN, V.B., red.; LOPATINA, L.I., red.

[Papers on the geology and geochemistry of mineral fuel] Sbornik rabot po geologii i geokhimii goriuchikh iskopaemykh. Moskva, 1965. 257 p. (MIRA 18:7)

1. Moscow. Universitet. Kafedra geologii i geokhimii goryuchikh iskopayemykh.

ARKHIPOV, A.Ya.; ALTAYEVA, N.V.; BAYBULATOVA, Z.K.; VISKOVSKIY, Yu.A.; GOLENKOVA, N.P.; KRAVCHENKO, M.F.; KUPRIN, P.N.; LEVIN, A.I.; POL'STER, L.A.; SEMOV, V.N.; SYRNEV, I.P.; USHKO, K.A.; SHOLOKHOV, V.V.; Prinimali uchastiye: RODIONOVA, M.K.; CHEL'TSOV, Yu.G.; KUZNETSOV, Yu.Ya., kand. geograf. nauk, nauchnyy red.

[Geology and oil and gas potentials of the south of the U.S.S.R.; Kara-Bogaz-Gol (Gulf) region (eastern part of the Middle Caspian oil- and gas-bearing basin).] Geologiia i neftegazonosnost' iuga SSSR; Prikarabozaz'e (vostochnaia chast' Srednekaspiiskogo neftegazonosnogo basseina). Leningrad, Nedra, 1964. 300 p. (Trudy Nauchno-issledovatel'skoy laboratorii geologicheskikh kriteriyev otsenki perspektiv neftegazonosnosti no.12).

SELIVANOVA, A.L., inzh.; KUPRIN, V.A., inzh. (Novosibirsk)

Loading of logs and lumber in dome-shaped piles without interlayers. Zhel.dor.transp. 41 no.12:68-70 D '59.
(MIRA 13:4)
(Lumber--Transportation) (Loading and unloading)

NIKOL'SKIY, N.P.; KUPRIN, V.A.; KRESTENKO, N.I. (Novosibirsk)

What hampers the shortening of car detention time during loading operations. Zhel.dor.transp. 42 no.7:40-44 Jl '60. (MIRA 13:7)

1. Nachal'nik Tomskoy zheleznoy dorogi (for Nikol'skiy) 2. Nachal'nik gruzovoy sluzhby Tomskoy zheleznoy dorogi (for Kuprin). 3. Glavnyy inzhener sluzhby dvizheniyaTomskoy zheleznoy dorogi (for Krestenko).
(Railroads--Freight cars)

KUPRIN, V.A. (Novosibirsk); MAL'GINOV, Ye.I.(Sverdlovsk)

Will the elimination of penalties contribute to the reduction of the idle time of cars? Zhel.dor.transp. 44 no.3:49-50 Mr '62. (MIRA 15:3)

1. Nachal'nik gruzovoy sluzhby Zapadno-Sibirskoy dorogi (for Kuprin).
2. Nachal'nik transportnogo upravleniya Sverdlovskogo sovnarkhoza (for Mal'ginov).

(Railroads—Freight)

KUPRIN, V.A. (Novosibirsk); PAKHOMEYEV, M.G.(Novosibirsk)

Improve the planning of freight transportation. Zhel.dor.transp.44 no.12: 32-34 D '62. (MIRA 15:12)

1. Nachal'nik gruzovoy sluzhby Zapadno-Sibirskoy dorogi (for Kuprin).
2. Nachal'nik otdela planirovaniya perevozok Zapadono-Sibirskoy dorogi (for Pakhomeyev).

(Railroads—Freight)

BESHKETO, V.K.; KOZLOVSKIY, M.G.; KUPRIN, V.A.; FLEYSHMAN, V.A.; MALAKHOV, K.N., inzh., retsenzent; POTAPOV, V.P., inzh., red.; VOROB'YEVA, L.V., tekhn. red.

[Transportation service for industrial enterprises; from the experience of the West Siberian Railroad] Transportnoe obsluzhivanie promyshlennykh predpriiatii; iz opyta Zapadno-Sibirskoi zheleznoi dorogi. Moskva, Transport, 1964. 86 p. (MIRA 17:1)

KUPRIN, V.A. (Novosibirsk); KONSTANTINOV, S.V. (Novosibirsk)

Savings of car-hours in every feature of car handling processes. Zhel. dor. transp. 46 no.7:70-72 Jl '64. (MIRA 17:8)

1. Zamestitel' nachal'nika Novosibirskogo otdeleniya zheleznoy dorogi.

ANDREYEV, V.I.; KUPRIN, V.I.

Using geological and geophysical data for evaluating the iron potential of deep horizons in the Tashtagol deposit. Geol.i geofiz. no.8:82-94 '61. (MIRA 14:9)

1. TSentral'naya geofizicheskaya ekspeditsiya, Stalinsk.
(Gornaya shoriya--Iron ores)

ACC NR: AP6034645 SOURCE CODE: UR/0118/66/000/008/0037/0039

AUTHOR: Kuprin, V. M. (Engineer); Lipin, Yu. N. (Engineer)

ORG: none

TITLE: Equipment for receiving and printing numerical data by telegraph

SOURCE: Mekhanizatsiya i avtomatizatsiya proizvodstva, no. 8, 1966, 37-39

TOPIC TAGS: telegraph equipment, ground receiving equipment, code transmission, data transmission

ABSTRACT: The commercial telegraph service is recommended as the best means of transmitting numerical or coded information to industrial plants since it is fast (6.6 symbols/sec) and is recorded on perforated tape, which facilitates processing by electronic computer. Taped messages can also be checked for errors before being transmitted. Accuracy is most important in transmitting numerical data such as statistics, accounts, and numerical codes. Experience proves that when messages in International Code No. 2 are received on the usual 5-row telegraph tape, there is one error in every 1500 symbols and 17% of these involve only one digit, as compared with one error in 9,000 letters of alphabetic transmissions. To reduce errors in such transmissions, a block installation for plants is described, including an ATA-20/6 commercial telegraph set, a UATS-49 telephone switchboard, coding unit, four data reception points and the

Card 1/2 UDC: 659:621.394.5

ACC NR: AP6034645

most important BUK checking block for digital data and codes (functional diagram). This BUK block is connected to telegraph sending and receiving sets operating at 300 m/sec whenever a mistake is detected and includes such units as an impulse receiver and selector, impulse strobing unit, memory and recall cell, a diode protective decoder, a checking and discarding unit. The operation of this block is described in detail, referring to Schmitt triggers, PRM repeaters, 10 inverters, 14 univibrators, and 5 power amplifiers. The univibrators and amplifiers were designed by the authors. Orig. art. has: 1 table and 3 figures.

SUB CODE: 09/ SUBM DATE: none

Card 2/2

KUPRIN, V.S.

Process of displacement and deposition of sludgy alluvium and its role in choking up marine canals. Izv.AN SSSR.Ser.geog. no.2: 17-24 Mr-Ap '56. (MLRA 9:8)

1. Soyuzmorproyekt Ministerstva morskogo flota.
(Sedimentation and deposition) (Canals)

S/020/60/132/04/25/064
B011/B003

5.3832

AUTHORS: Barvinok, M. S., Kuprin, V. S., Mazurek, V. V., Semenov, G. I.

TITLE: Physicochemical Investigation of the Process Involved in the Formation of Furfurol-aniline Resins

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 4, pp. 826-828

TEXT: The chemical nature of the formation of furfurol-aniline resins has not yet been described in publications. The authors investigated this problem by chemical and physical methods in addition to physico-chemical ones. They used aniline, furfurol, acetone, toluene (pro analysi), and hydrochloric acid (chemically pure). The light absorption of this system was measured with a photoelectric spectrophotometer of the type СФ-4 (SF-4). Acetonic furfurol- and aniline solutions were mixed in different ratios. Concentrated hydrochloric acid was added to the aniline solutions in acetone. The light absorption of these

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Physicochemical Investigation of the Process Involved in the Formation of Furfurol-aniline Resins

S/020/60/132/04/25/064
B011/B003

solutions was measured 30 min after mixing. The results are illustrated in Fig. 1. On the curve optical density/composition (Curve 1, λ = 560 mμ) a special point is marked, which corresponds to the molar ratio of furfurol : aniline = 1 : 1 (spectral range 530-560 mμ). The compound thus formed in the first stage of resin formation corresponds to furfuranil (I) (Ref. 4, see Scheme). The stage of a more intensive formation of resin was studied on the system furfurol - aniline - HCl - acetone (furfurol - aniline: 20 mole %, HCl 0.012 mole %). If furfurol-aniline mixtures are heated to 40°C and the HCl concentration is raised, the formation of resins is intensified. The diagram optical density/composition (Curve 2, λ = 565 mμ) is more complicated in this case. On the curves optical density/composition special points are marked, which correspond to the molar ratios of furfurol: aniline = 2 : 1, 1 : 1, 1 : 2, and 1 : 4. These points are confirmed on this diagram by investigation of the cross section with a furfurol-aniline amount of 40 mole % (Curve 3, λ = 570 mμ). The authors measured the viscosity of the system furfurol-aniline-HCl (HCl 0.012 mole %) with a viscosimeter

Card 2/4

for precision measurements at 60°, since the furfurol-aniline resins were in viscous-liquid state at this temperature. On the curves viscosity/composition a distinct maximum is visible, which corresponds to the reaction of furfurol and aniline in a molar ratio of 1 : 2 (Curve 4). At this point the viscosity of the system exceeds the viscosity of the components used by 1000 times. The abscissa of this point (composition) does not change if a non-reacting substance is added (toluene), although the viscosity of the system is thus reduced. The thermal effect was investigated by means of a calorimeter. In order to construct the diagram thermal effect/composition, the system furfurol - aniline - HCl (HCl 0.048 mole %) was studied. The special point on Curve 5 corresponds to the reaction of furfurol with aniline in a molar ratio of 1 : 2. Thus, this special point on the diagrams composition/property is confirmed by studying light absorption, thermal effect, and viscosity. Resins corresponding to this special point are the best stabilizers for soils (Ref. 2). The authors proved by chemical methods and infrared spectroscopy that two chemical compounds correspond

KUPRIN, Ye.

Repairing tires by applying trend. Avt.transp. 37 no.3:23-24 Mr '59. (MIRA 12:4)

1. Glavnyy inzhener Sochinskogo avtotresta.
(Automobiles--Tires--Maintenance and repair)

22933
S/123/61/000/008/004/013
A004/A104

1.5600

AUTHOR: Kuprin, Yu.V.

TITLE: Milling cutters for the machining of narrow cross-section V-grooves

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 8, 1961, 63, abstract 8B479 (V sb. "Nekotoryye vopr. tekhnol. proiz-va turbin". [Tr. Leningr. metallich. z-da, no. 7], Moscow-Leningrad, 1960, 340 - 342)

TEXT: A description is given of a high-efficiency tapered end mill (Z= 3, =30°, rake angle = 5°, back angle = 10°) designed by the LMZ worker S.K. Piskunov. The end mill is intended for the machining of narrow V-shape grooves in the runners and covering wheel disks of the GT -12-3 (GT-12-3) gas compressor, and makes it possible to increase the labor productivity by 60% on account of a reduction in machining time. There are 4 figures.

S. Avrutin

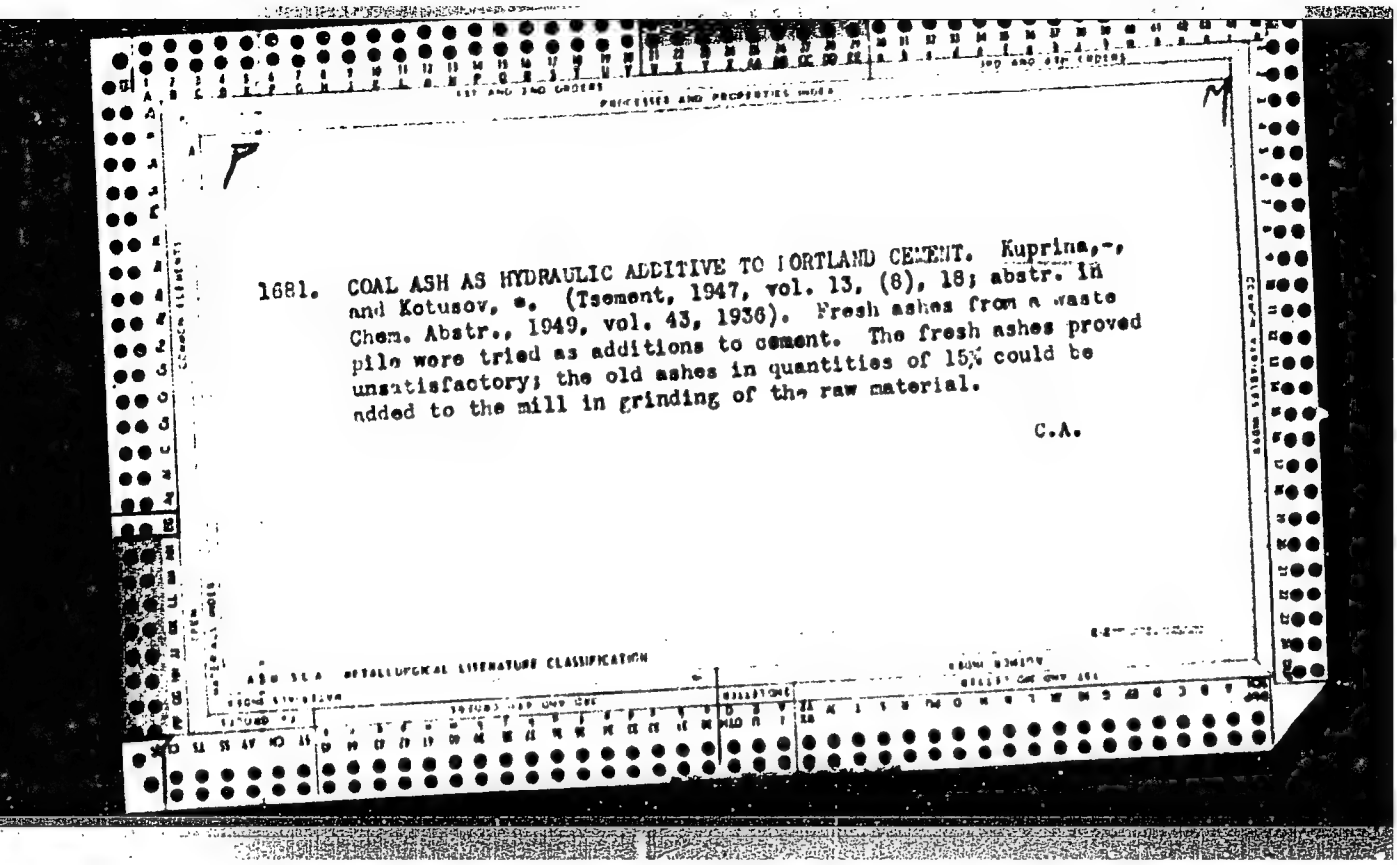
[Abstracter's note: Complete translation]

Card 1/1

KUPRINA, A.; LIFANOVA, A.; KUPITS, T.; BURMISTROVA, L.

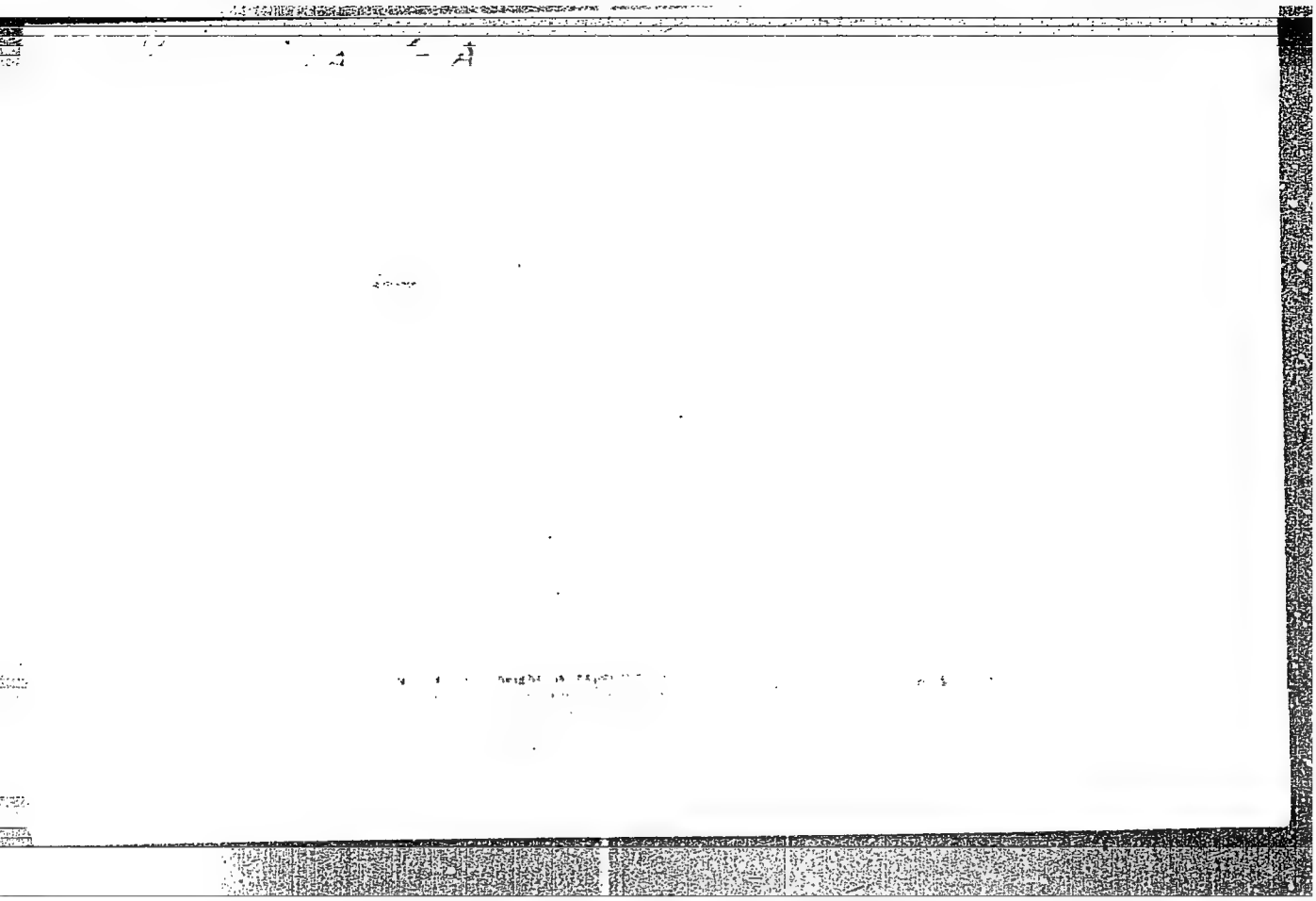
Squeezed in and resentful. Rabotnitsa 37 no.12:22-23 D '59. (MIRA 13:3)

1. Uchastniki reydovoy brigady zhurnala "Rabotnitsa" v Tule. (Tula--Day nurseries)



1681. COAL ASH AS HYDRAULIC ADDITIVE TO PORTLAND CEMENT. Kuprina, -, and Kotusov, *. (Tsement, 1947, vol. 13, (8), 18; abstr. in Chem. Abstr., 1949, vol. 43, 1936). Fresh ashes from a waste pile were tried as additions to cement. The fresh ashes proved unsatisfactory; the old ashes in quantities of 15% could be added to the mill in grinding of the raw material.

C.A.



KUPRINA, G.A.; SERGEYEV, Ye.M.

Principal characteristics of the composition and properties of sands of western Kara Kum. Vest.Mosk.un. 8 no.5:121-132 My '53. (MLRA 6:8)

1. Kafedra gruntovedeniya. (Kara Kum--Sand) (Sand--Kara Kum)

USSR/Geophysics -- Land Improvement FD-1613

Card 1/1 : Pub. 129-16/23

Author : Sergeyev, Ye. M.; Polyakov, S.S.; and Kuprina, G. A.

Title : Improvement of sandy land by silt deposition from flood waters which erode denuded hills

Periodical : Vest. Mosk. un., Ser. fizikomat. i yest. nauk, 9, No 8, 109-116, Dec 1954

Abstract : The author remarks that 'kolmatatsiya' (improvement of land by silt deposition) applied to sandy land is one of the most successful methods for decreasing their water permeability, as experimentally demonstrated by Ye. M. Sergeyev ("Role of chemico-mineralogical composition of material in the kolmatatsiya processing of sandy land," ibid. No 10, 1954). The authors discuss investigations conducted in the southern border of the sandy massif of Western Kara-Kumy in the region of Lake Chokrok (60 km northeast of the city of Kazandzhik) and Oraz-Kuym landmark (60 km north of the city of Kizyl-Arvat), Lake Chokrok being 8 square kilometers. They conclude that their results possess great practical significance for the creation of artificial reservoirs and impounds in the sandy foothills of the Kopet-Dag valley.

Institution : Chair of Ground Science

Submitted : September 14, 1954

SERGEYEV, Ye.M.; POLYAKOV, S.S.; KUPRINA, G.A.

Flood water silt deposition on sand. Vest.Mosk.un.9 no.12:109-116 D '54. (MIRA 8:3)

1. Kafedra gruntovedeniya.
(Kara Kum--Silt)

KUPRINA, O.A.; SERGEYEV, Ye.M.

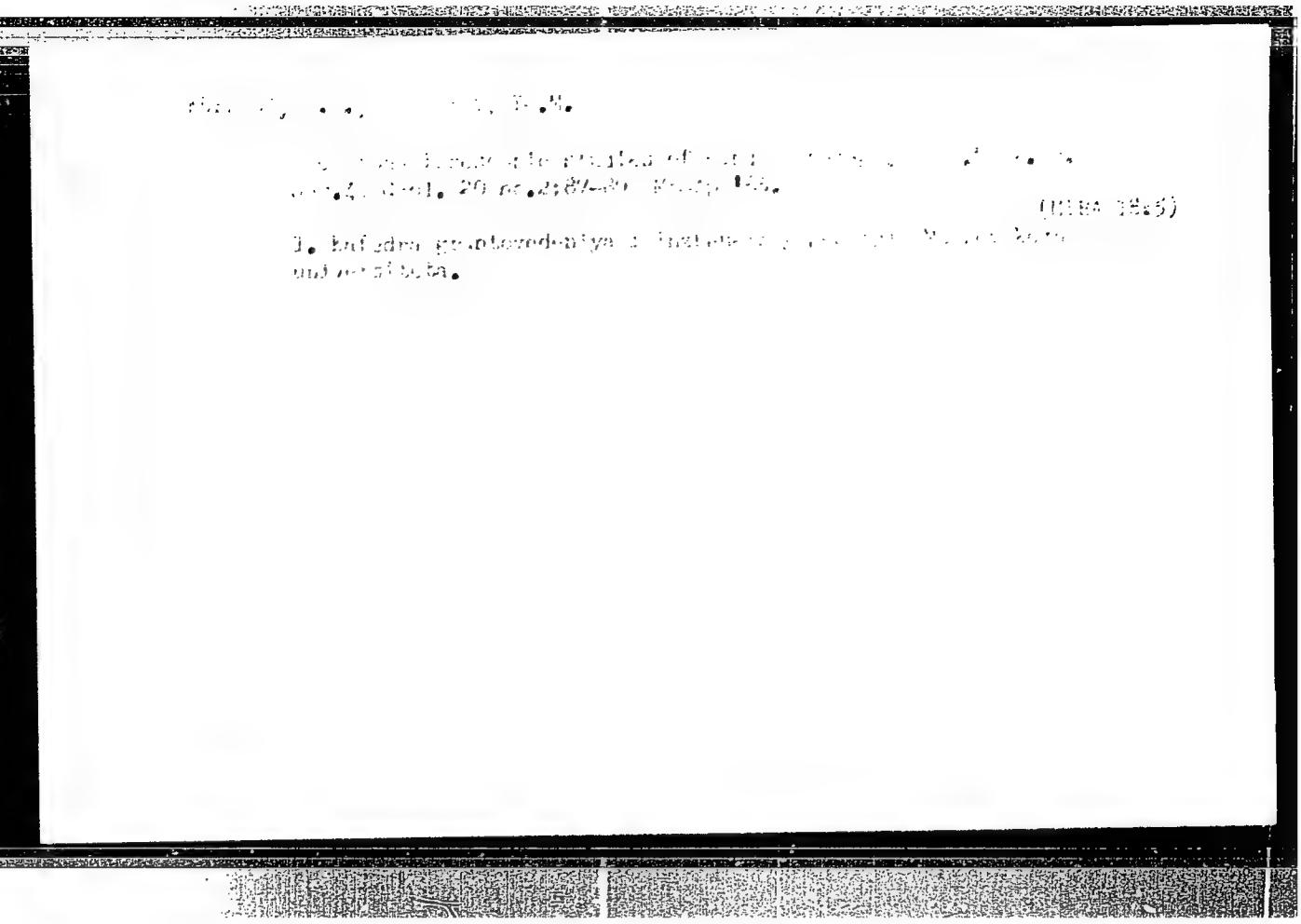
Effect of the interstitial water content on the stability of argillaceous ground. Nauch.dokl.vys.shkoly; geol.-geog.nauki no.1:163-172 '59. (MIRA 12:6)

1. Moskovskiy universitet, geologicheskiy fakul'tet, kafedra gruntovedeniya i inzhenernoy geologii.
(Clay)

KUPRINA, G.A.

Effect of the saline composition of filter water, freezing, and drying on the stability of sand improved by silt deposits. Vest. Mosk. un. Ser 4: Geol. 20 no.1:75-77 Ja-F '65.
(MIRA 18:3)

1. Kafedra gruntovedeniya i inzhenernoy geologii Moskovskogo gosudarstvennogo universiteta.



DACHKO, P.S.; KUPRINA, L.V.

Using boiler slag as a raw material component. TSement 17 no.5: 20-21 S-O '51. (MLRA 9:8)

(Sement) (Slag)

KUPRINA, N.A.

Some results of an investigation in connection with obtaining extracts of Sanguisorba. Apt.delo 9 no.2:11-14 Mr-Ap '60.
(MIRA 13:6)

1. Iz kafedry tekhnologii lekarstvennykh form i galenovykh preparatov (zam. - dotsent A.S. Proxorovskiy) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.
(SANGUISORBA)

CHEBOTAREVA, N.S.; KUPRINA, N.P.; KHOREVA, I.M.

Geomorphology and stratigraphy of the quaternary deposits in the middle Lena and lower Aldan Valleys. Izv. AN SSSR. Ser. Geog. no.3: 60-71 My-Je '57. (MIRA 10:12)

(Lena Valley--Physical geography)
(Aldan Valley--Physical geography)
(Geology, Stratigraphic)

AUTHORS: Chebotareva, N.S., Koprina, N.P.

TITLE: On the History of the Lena Valley (K istorii doliny Leny)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geograficheskaya, 1958, Nr 5, pp 42-46 (USSR)

ABSTRACT: Data is given on the relief structure of Siberia and in particular on the development of the Lena river valley. The author assumes the ancient origin of the valley. On the basis of the presented material he states that the basic characteristics of the valley structure are determined by the geological-structural peculiarities of the region. With respect to the different ages of various parts of the valley, the age of the oldest terrace is being evaluated as Upper-Tertiary. It can be assumed that the Lena valley was formed at the end of the Neogene period. All existing data on stratigraphy of Cenozoic deposits and the geomorphological peculiarities of the valley structure permit the assumption that its development dates from the end of Tertiary to the beginning of Quaternary.

Card 1/2

On the History of the Lena Valley SOV/10-58-5-6/28

There is 1 diagram and 16 Soviet references.

ASSOCIATIONS: Institut geografii AN SSSR (Institute of Geography of the AS USSR)
Geologicheskiy institut AN SSSR (Geological Institute of the AS USSR)

Card 2/2

AUTHOR: Kuprina, N.P. SOV/20-121-6-35/45

TITLE: New Data on the Glaciation of the Western Verkhoyan Region (Novyye dannyye ob oledenenii Zapadnogo Verkhoyen'ya)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 121, Nr 6, pp 1071 - 1074 (USSR)

ABSTRACT: The authors who dealt with the glaciation mentioned in the title agree only upon the problem of the number of glaciation periods (Refs 1,2,4). Hitherto character, distribution and age of these glaciations have remained unclarified. One of the most complicated problems is that of the distribution of the old glaciation in the premontory. Although in the catchment area of the Tumara river two terminal moraines exist according to A.A. Grigor'yev (Ref 2) and D.M. Kolosov (Ref 4), and therefore 2 glaciations are likely to exist, V.S.Varlamov and I.P. Vyshemirskiy (Ref 1) proved that the origin of these 2 moraines was only one glaciation. From that the two latter authors drew the conclusion that only one glaciation existed in the premontory. By means of field investigations the author gained the knowledge in 1957 which allowed a new interpretation of the problem. In the valley of the Tumara river 60 km above the estuary (Fig 1) there are 2 very different strata of

Card 1/3

moraines: a) a lower, 40 - 45 m thick, b) an upper packet, 10 m thick. The glacial history of the southern promontories of the mentioned region may be described as follows: The old glaciation probably had the character of a mountain valley and did not extend very far. Anyway the glaciers did not move further than 30 km off the mountains. The age of the glaciers has still not been clarified. It is quite likely that both glaciations were connected with only one center which was the Werkhoyan region. After the old glaciation probably a period of erosion followed during which the bottom valleys of the mountain rivers were formed and alluvium was accumulated. A new glaciation followed this period which had also a mountain-valley character. This glaciation had apparently several stages. The latter glaciation was maximal for this region. Its age could be determined as the second half of the Middle Pleistocene-Upper Pleistocene period. There are 2 figures and 5 references, 5 of which are Soviet.

New Data on the Glaciation of the Western Werkhoyan Region

SOV/20-121-6-35/45

ASSOCIATION: Geologicheskiy institut Akademii nauk SSSR (Geological Institute, AS USSR)

PRESENTED: April 26, 1958, by A.L. Yanshin, Member, Academy of Sciences, USSR

SUBMITTED: April 19, 1958

Card 3/3

KUPRINA, N.P.; VTYURIN, B.I.

Stratigraphy and cryogenic features of Quaternary sediments in the Yana Valley. Izv. AN SSSR. Ser. geol. 26 no.5:76-87 My '61. (MIRA 14:5)

1. Geologicheskiy institut AN SSSR i Institut merzlotovedeniya AN SSSR, Moskva.
(Yana Valley (Yakutia)—Geology, Stratigraphic)

ALEKSEYEV, M.N.; KUPRINA, N.P.; MEDYANTSEV, A.I.; KHOREVA, I.M.; RAVSKIY, E.I., otv.red.; MISHINA, R.L., red.izd-va; SUSHKOVA, L.A., tekhn.red.

[Stratigraphy and correlation of Neogene and Quaternary sediments in the northeastern part of the Siberian Platform and its eastern fold margin] Stratigrafiia i korreliatsiia neogenovykh i chetvertichnykh otlozhenii severo-vostochnoi chasti sibirskoi platformy i ee vostochnogo skladchatogo obramleniia. Moskva, Izd-vo. Akad. nauk SSSR. 1962. 125 p. (Akademiia nauk SSSR. Geologicheskii institut. Trudy, no.66). (MIRA 15:9)

1. Chetvertichnyy otdel Geologicheskogo instituta AN SSSR (for Alekseyev, Kuprina, Medyantsev, Khoreva).
(Siberian Platform--Geology, Stratigraphic)

KUPRINA, N.P.; SKIBA, L.A.

Recent data on the flora and vegetation of the blue diatom clays of the central Kamchatka Depression. Dokl.AN SSSR 148 no.4:904-905 F '63. (MIRA 16:4)

1. Geologicheskiy institut AN SSSR. Predstavleno akademikom V.N.Sukachevym.
(Kamchatka—Paleobotany, Stratigraphic)

KUPRINA, N.P.; SKIBA, L.A.

Paleogeography of the Upper Pleistocene interglacial period of Kamchatka. Izv. AN SSSR. Ser. geol. 29 no.8:78-83 Ag '64. (MIRA 17:11)

1. Geologicheskiy institut AN SSSR, Moskva.

USSR/Thermodynamics - Thermochemistry. Equilibria. B-8
Physical-Chemical Analysis. Phase Transitions.

Abs Jour : Referat Zhur - Khimiya, No 6, 1957, 18503

Author : A.T. Grigor'yev, L.A. Panteleymonov, L.M. Viting, V.V. Kuprina.

Title : Study of System Copper - Cobalt.

Orig Pub : Zh. neorgan. khimii, 1956, 1, No 5, 1064-1066

Abstract : The system Cu - Co was studied by the methods of thermal analysis of microstructure and hardness (Brinell's method). The initial materials were electrolitic Cu and Co containing not more than 0.01% of C. Melting was carried out in a Kryptol furnace in corundum crucibles under $BaCl_2$ slag. The results of chemical analyses of the top and bottom sides of alloys do not confirm the bibliographic data concerning the solubility absence in the liquid state. No signs of foliation were discovered. A small addition of Cu to Co causes a sharp rise of the alloy hardness. The phase graph is attached.

Card 1/1 - 184 -

KUPRINA, V.V.

Category : USSR/Solid State Physics - Systems E-4

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3792

Author : Grigor'ev, A.T., Panteleymonov, L.A., Kuprina, V.V., Rybak, L.I.
Title : Investigation of the Palladium-Copper-Cobalt System.

Orig Pub : Zh. neorgan. khimii, 1956, 1, No 5, 1067-1073

Abstract : The diagram of state of the Pd-Cu-Co system was investigated by metallographic methods and by methods of thermal analysis, hardness measurement, measurement of electric resistivity, and measurement of the temperature coefficient of electric resistivity. It is shown that the mutual solubility of Cu and Co increases with increasing Pd contents. The heterogeneous region of the Cu-Co system is transformed into a triple system at room temperature, is gradually reduced with increasing content of Pd in the alloys, and is closed at approximately 55% Pd. The hardness of alloys of the sections through the triple diagram with constant Pd content increases strongly from Pd-Cu side, passes through a maximum, and diminishes towards the Pd-Co side. The electric resistivity of the Pd-rich sections of the system varies in an analogous manner.

Card : 1/1

SOV/78-3-11-17/23

AUTHORS: Grigor'yev, A. T., Panteleymonov, L. A., Kuprina, V. V., Vorob'yev, V. S.

TITLE: The Investigation of the System Gold-Silver-Cobalt (Issledovaniye sistemy zoloto-serebro-kobal't)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 11, pp 2532-2536 (USSR)

ABSTRACT: The phase diagram of the system gold-silver-cobalt was constructed and investigated. The investigations covered the thermal analysis, microstructure, Brinell hardness, electric resistance, and its temperature coefficients. The purest metals with impurities of a maximum of 0,01% were the source material. The alloys were treated in krypton furnaces under a barium chloride layer.
The fusion and hardness diagrams of the system Ag-Co in the case of a varying Au-content are given in the figures 2 and 3. The determination of the electric resistance was carried out by means of a potentiometer at 25° and 100°C. The electric resistance of the system Ag-Co in the case of a varying Au-content is given in figure 4. The electric resistance reaches a maximum

Card 1/2

The Investigation of the System Gold-Silver-Cobalt

approximately at a ratio of Ag : Co = 1 : 1. The results of the calculation of the temperature coefficients of the electric resistance in the temperature range 25 - 100°C are given in the tables 1 and 5. The diagrams of the temperature coefficients analogous to the diagrams mentioned above have a maximum and a minimum.

The microstructure of the alloys was investigated after the determination of the hardness of the latter. Dark phases in the alloys are rich in cobalt, light phases are rich in gold.

The limits of the individual ranges in the phase diagram were determined by means of the microstructure investigations. The investigations showed that the separation zone in the binary system silver-gold exists at room temperature and is reduced by the addition of gold. It vanishes completely in the range of about 67% gold.

There are 6 figures, 2 tables, and 10 references, 4 of which are Soviet.

SUBMITTED: October 21, 1957

AUTHORS: Kuprina, V. V., Grigor'yev, A. T. SOV/78-3-12-21/36

TITLE: Investigations of Alloys of the System Iron-Cobalt-Palladium (Issledovaniye splavov sistemy zhelezo-kobal't-palladiy) I. Melting Curves of the System Iron-Cobalt-Palladium (I. Diagramma plavkosti sistemy zhelezo-kobal't-palladiy)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 12, pp 2736-2739 (USSR)

ABSTRACT: To determine the melting curves of the iron-cobalt-palladium system, alloys were studied which had a constant palladium content of 10-90 atoms % and varying iron and cobalt contents. As the starting materials the purest electrolytic iron, refined palladium and cobalt, and a carbon content not higher than 0.01% were used. The cooling curves were plotted using a Kurnakov recording pyrometer. The form of the liquidus and solidus curves of the sections shows that in the ternary system Fe-Co-Pd a continuous series of solid solutions form. The crystals of the solid solutions were ascertained by a micro-structural determination.

Card 1/2

Investigations of Alloys of the System Iron-Cobalt-Palladium. I. Melting Curves of the System Iron-Cobalt-Palladium SOV/78-3-12-21/36

Hardness determinations were carried out on alloys tempered at 1000° C. There are 4 figures, 1 table, and 27 references, 7 of which are Soviet.

SUBMITTED: July 24, 1958

Card 2/2

KUPRINA, V. V., Candidate of Chem Sci (diss) -- "Investigation of melts of the systems iron-cobalt-palladium and iron-palladium". Moscow, 1959. 8 pp (Moscow Order of Lenin and Order of Labor Red Banner State U im M. V. Lomonosov, Chem Faculty), 100 copies (KL, No 22, 1959, 109)

18(6)

AUTHORS: Grigor'yev, A. T., Kuprina, V. V., Nedumov, N. A.

SOV/78-4-3-24/34

TITLE: The Phase Diagram of the System Chromium - Tantalum (Diagramma sostoyaniya sistemy khrom - tantal)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 3, pp 651-654 (USSR)

ABSTRACT: The system chromium - tantalum was investigated by the method of thermal and microscopic analysis. As initial product tantalum was used in a purity of 99.4 % and chromium in a purity of 99.68 %. Chromium diffuses extremely slowly in tantalum alloys. In order to attain the equilibrium a longer treatment at higher temperature is necessary. In the system the chemical compound Cr_2Ta is formed, which melts at 2,020° without decomposing. The chemical compound Cr_2Ta dissolves the individual components to a hardly recognizable extent. It was found that the chemical compound Cr_2Ta forms a eutectic with solid solutions of chromium in tantalum at 1,980° and 75 % tantalum. With solid solutions of tantalum

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in chromium it forms a eutectic mixture at 1,700° and 34 % tantalum. The solubility of tantalum in chromium amounts at a eutectic temperature to ~10 %. This value agrees well with the values given in publications. The cooling curve of the alloy was plotted corresponding to the chemical compound Cr_2Ta. The first thermal effect at 2,020° corresponds to the crystallization of the alloy from the liquid state. The second effect at 1,805° points to the transformation of the modification of Cr_2Ta from $\zeta \rightarrow \epsilon$. Based upon the results the phase diagram chromium - tantalum was plotted and is given in figure 4. There are 4 figures and 2 references.

SUBMITTED: July 2, 1958

18(3)
AUTHORS: Kuprina, V. V., Grigor'yev, A. T. SOV/78-4-3-25/34

TITLE: Investigation of the System Iron - Palladium (Issledovaniye sistemy zhelezo - palladiy)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 3, pp 655-661 (USSR)

ABSTRACT: The system iron - palladium was investigated by microstructural and differential-thermal analysis, determination of the electric resistance and hardness. The hardness of the alloys was determined in softened and hardened samples at 1,000°, 900°, 800°, 750°, 700°, and 600°. Microstructural analysis was carried out on the same sample. The electric resistance was determined at 25° and 100° by means of the potentiometer PPTN-1. Based upon the microstructural and differential-thermal analysis the diagram was plotted and is given in figure 1. This system contains two chemical compounds: PdFe and Pd_3Fe. The solubility of palladium at 800° in α iron is not more than 5 atom %. γ iron mixes with palladium to an unlimited extent. In the case of alloys with 40 atom % palladium a polymorphic transformation occurs at

Card 1/2

low temperatures caused by the transition of α iron into γ iron. Hardness in hardened alloys with 40-80 atom % palladium is characterized by a minimum. In the case of higher temperatures the minimum in hardened alloys is more intensive. As an explanation for the minimum the formation of martensite and the stabilization of the γ phase are mentioned. The chemical compound Pd_3Fe occurs in the case of low temperatures as PdFe. The curves of the specific electric resistance at 25° and 100° and of the temperature coefficient show marked singular points of the chemical compound PdFe in the hardened alloy. In the case of softened alloys the curve of hardness shows a weakly marked minimum. The section of the curve limiting the chemical compounds leads to the formation of a eutectic point at 65 atom % palladium. There are 5 figures, 3 tables, and 10 references, 4 of which are Soviet.

SUBMITTED: September 30, 1958

5(2), 18(3), 18(7) SOV/78-4-7-23/44

AUTHORS: Kuprina, V. V., Grigor'yev, A. T.

TITLE: Conversions in the Solid State of the Alloys of Iron With Cobalt and Palladium (Prevrashcheniya v tverdom sostoyanii v splavakh zheleza s kobal'tom i palladiyem)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 7, pp 1606-1612 (USSR)

ABSTRACT: An investigation was carried out of alloys in the cross section of the phase diagram parallel to the iron-cobalt side with a palladium content of 2, 5, 10, 20, 30, 40 and 50 at% Pd by the method of the differential thermal analysis and examination of the microstructures. The results obtained are shown in a table and in figure 1. The analysis of the thermograms (Figs 2,3) proved that in the majority of cases of investigated alloys a conversion in the solid state occurs within the range of between 700 and 900°, which is accompanied by considerable thermal effects. A comparison between the data of the thermal analysis and those of the microstructures showed that these effects correspond to the temperature of transition from the heterogeneous range into the range of the solid γ-solutions. With an increase

Card 1/2

Conversions in the Solid State of the Alloys of Iron With Cobalt and Palladium

in the palladium content the curves separating the range of the mechanical mixture from that of the homogeneous solid solution become increasingly higher, pass through a flat minimum, and then decline sharply. An eutectoidal decay in the system Fe - Pd, in the case of alloys that are rich in iron, leads to a broad three-phase range α-γ-γ_1 (γ_1 = solid solution in the compound PdFe). Figure 5 shows the microstructures of the hardened or annealed alloys. With a content of 2 at% Pd the ordered range α_1 enters into the two-phase range (α+γ), where it is conserved until about 46 at% Pd is attained. The range of the ternary solid γ-solutions, in the case of alloys rich in cobalt, as well as in that of alloys containing more than 50 at% Pd, is conserved right down to room temperature. There are 5 figures, 1 table, and 13 references, 3 of which are Soviet.

SUBMITTED: January 28, 1959

Card 2/2

21122
S/153/61/004/001/001/009
B110/B203

18 7500 4016, 1145, 1555

AUTHORS: Kuprina, V. V., Grigor'yev, A. T.

TITLE: Polymorphous $\alpha \rightleftarrows \gamma$ conversion in alloys of iron with cobalt and palladium

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, v. 4, no. 1, 1961, 7-10

TEXT: The authors studied the limits of polymorphous $\alpha \rightleftarrows \gamma$ conversion in Fe - Co - Pd alloys. The transition from binary to ternary systems has been described in publications. According to earlier investigations carried out by the authors, the conversion temperature in the Fe - Pd system drops with increasing Pd content until the intersecting point with the curve limiting the range of the chemical compound PdFe (phase γ_1).

The intersecting point represents the eutectic (620°C and 40 at% Pd). In the present paper, the authors studied cross sections of tempered and hardened Fe - Co alloys with a constant Pd admixture of 2, 5, 10, 20, 30, 40, 50 at% by differential thermoanalysis (I) and microstructural

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analysis (II). To obtain complete conversion in solid state, the alloys were long annealed in an induction furnace under a $BaCl_2$ layer, and then suddenly cooled in ice water from 1000, 900, 800, 750, 700, 600°C to study microstructure; the annealing time was increased with decreasing annealing temperature (1000°C: 250 hr; 900°C: 250-300 hr; 800°C: 800-600 hr; 750°C: 500-880 hr; 700°C: 800-500 hr; 600°C: 750-1000 hr). In method (I), the heating curves of tempered alloys were recorded with a ПК-52 (PK-52) Kurnakov pyrometer and a Pt-PtRh thermocouple (Fig. 1). Here, conversion takes place in solid state with any Pd admixtures between 700 and 900°C. The heat effect observed corresponds to the transition temperature from the heterogeneous range to the range of solid γ-solutions, as is shown by a comparison of results of thermal analysis and the microstructure of alloys suddenly cooled from temperatures above and below the conversion points. In strongly ferriferous alloys, the eutectic decomposition occurring in the Fe - Pd system leads to a wide three-phase range ($\alpha + \gamma + \gamma_1$) in the ternary system. The transition from the three-phase state to two-phase ($\alpha + \gamma$) is characterized by additional thermal effects on the differential heating curves.

analysis (II). To obtain complete conversion in solid state, the alloys were long annealed in an induction furnace under a $BaCl_2$ layer, and then suddenly cooled in ice water from 1000, 900, 800, 750, 700, 600°C to study microstructure; the annealing time was increased with decreasing annealing temperature (1000°C: 250 hr; 900°C: 250-300 hr; 800°C: 800-600 hr; 750°C: 500-880 hr; 700°C: 800-500 hr; 600°C: 750-1000 hr). In method (I), the heating curves of tempered alloys were recorded with a ПК-52 (PK-52) Kurnakov pyrometer and a Pt-PtRh thermocouple (Fig. 1). Here, conversion takes place in solid state with any Pd admixtures between 700 and 900°C. The heat effect observed corresponds to the transition temperature from the heterogeneous range to the range of solid γ-solutions, as is shown by a comparison of results of thermal analysis and the microstructure of alloys suddenly cooled from temperatures above and below the conversion points. In strongly ferriferous alloys, the eutectic decomposition occurring in the Fe - Pd system leads to a wide three-phase range ($\alpha + \gamma + \gamma_1$) in the ternary system. The transition from the three-phase state to two-phase ($\alpha + \gamma$) is characterized by additional thermal effects on the differential heating curves.

S/153/61/004/001/001/009
B110/B203

Polymorphous α ⇌ γ conversion ...

In method (II), the same alloys were etched with alcoholic Br_2 solution.

When cooling an alloy of 50 at% Fe, 45 at% Co, and 5 at% Pd from 1000°C (A) and 900°C (B) it was found that the conversion took place with considerable heat effect at 960°C. Typical solid solutions appeared in (A), whereas the α-phase was observed in (B). Increasing Pd content lowers the conversion points (with 20 at% Pd, solid solutions still existing at 900°C, two phases being observable only at 800°C), and produces highly disperse structure of the α-phase separated. There are 3 figures, 1 table, and 11 references: 2 Soviet-bloc and 9 non-Soviet-bloc. The three references to English-language publications read as follows: M. Hansen, Constitution of binary alloys. N. Y., Toronto, London, 1958; R. Hyltgren, Nature 142, 395 (1938); W. C. Ellis, Trans. ASME, 29, 415 (1941).

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova, Kafedra obshchey khimii (Moscow State University imeni M. V. Lomonosov, Department of General Chemistry)

SUBMITTED: April 10, 1959

Card 3/7

18.7500

25509

S/078/61/006/008/008/018
B121/B203

AUTHORS: Grigor'yev, A. T., and Kuprina, V. V.

TITLE: Transformation "order - disorder" in alloys of iron with cobalt and palladium

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 6, no. 8, 1961, 1891-1901

TEXT: Phase transformations in alloys of iron with cobalt and palladium at temperatures below 1000°C were studied by physicochemical methods (differential-thermal analysis, hardness determination, microstructure, electrical resistivity, and its temperature coefficient). The differential-thermal analysis was conducted with a ТК-52 (РК-52) Kurnakov pyrometer. The alloys were studied on their sections Pd_3Fe-Co; Pd_3Fe-FeCo; PdFe-Co; PdFe-FeCo; FeCo-Pd. The mixture $\alpha + \gamma$ appeared in the polymorphous transformation $\alpha \rightleftarrows \gamma$. A large area of the section Pd_3Fe-Co is covered by the solid γ-solution. The hardness of ordered alloys of this section is greater than that of disordered alloys, which confirms the heterogeneous character of these alloys. In the section Pd_3Fe-FeCO, the ternary solid solution is

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transformed as follows: (1) Polymorphous $\alpha \rightleftarrows \gamma$ transformation in alloys with 52 at% palladium, (2) transformation of the solid α-solution into ordered α_1-phase, and (3) decomposition of solid γ-solution with subsequent formation of a γ_1-phase. Alloys richer in palladium decompose while forming the ordered phase γ_2. The hardness of alloys changes with changing hardening temperature. In the section PdFe-CO, wide areas of ternary solid γ-solutions form only at higher temperatures. With a decrease in temperature in alloys containing up to 80 at% Co, a polymorphous $\alpha \rightleftarrows \gamma$ transformation proceeds while forming two ordered phases, α_1 and γ_1. The chemical compound PdFe comprises a wide range in the ternary system. Between 1 and 50 at% of Pd, the chemical compound PdFe forms in the two-phase range $\alpha + \gamma$, and the phases $\alpha + \gamma_1$ and $\alpha + \gamma + \gamma_1$ form by reaction of these phases. In alloys containing more than 50 at% of Pd, the ordering process is accompanied by the formation of a broad heterogeneous $(\gamma + \gamma_1)$-phase. Two stable phases, $(\alpha + \alpha_1)$ and $\gamma + \gamma_1$, appear on the section PdFe-FeCo.

S/078/61/006/008/008/018
B121/B203

The phase diagram for the systems iron - palladium and iron - cobalt and the projection of the phase boundaries at room temperature in the three-component system were plotted on the basis of the present study and the papers Ref. 1(V. V. Kuprina, A. T. Grigor'yev, Zh. neorgan. khimii, 4, 1606, (1959)) and Ref. 14 (V. V. Kuprina, A. T. Grigor'yev, Zh. neorgan. khimii 3, 2736, (1958)). Fig. 5 shows this diagram. There are 5 figures, 2 tables, and 14 references: 4 Soviet-bloc and 10 non-Soviet-bloc.

SUBMITTED: July 1, 1960

S/078/62/007/004/016/016
B107/B110

AUTHORS: Grigor'yev, A. T., Kuprina, V. V.

TITLE: Study of the alloys of chromium with molybdenum and nickel in the field of mixed crystal on chromium basis

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 4, 1962, 942 - 945

TEXT: One part of a section through the system Cr - Mo - Ni, starting from the chromium corner down to 60% of Cr, ratio Ni:Mo = 1:3, temperature range 1200 - 1900°C was studied. Electrolytic chromium (99.98%), electrolytic nickel (99.98%), and molybdenum (99.95%) were used as initial materials. The specimens were heated in an arc furnace in argon atmosphere and also quenched in argon atmosphere. Examination of the microstructure of the samples yielded the following results (Fig. 1): four solid phases corresponding to the various chromium modifications were observed. Two-phase regions take their origin from the transition points of chromium (950°, 1350°, 1650°, 1830°C). There are 2 figures, 1 table, and 4 Soviet references.

SUBMITTED: October 2, 1961
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37170
S/078/62/007/005/010/014
B101/B110

18.1280
AUTHORS: Grigor'yev, A. T., Panteleymonov, L. A., Kuprina, V. V., Goldobina, G. V.

TITLE: Investigation of alloys of the system palladium-gold-nickel

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 5, 1962, 1110-1116

TEXT: The system Pd-Au-Ni was studied on 77 alloys with palladium concentrations between 10 and 90 % rising by 10 % each. Thermal analysis of the liquid state, differential analysis of the tempered alloys (500 hr in vacuo at 900°C), investigation of the microstructure, and determination of the Brinell hardness, of the resistivity at 25 and 100°C, and of its temperature coefficients were carried out. Results: (1) At constant Pd content, the liquidus and solidus curves suggest the existence of a continuous series of solid solutions. The melting-point curves show a flat minimum in the range of medium concentrations. (2) At a Pd content below 20 %, the ternary solid solution decomposes, and a mechanical mixture forms within a wide range, which consists of solid solution on the basis of gold and solid solution on the basis of nickel. (3) Hardness and

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resistivity increase in the range of the mechanical mixture almost linearly with the concentration of Au, show a break at the phase boundary, and - in the range of the ternary solid solution - maxima at medium Au concentrations. (4) The curves for the temperature coefficient of the resistivity are countercurrent to those for hardness and resistivity. There are 6 figures and 2 tables.

SUBMITTED: June 27, 1961

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S/078/62/007/007/003/013
B101/B144

AUTHOR: Kuprina, V. V.

TITLE: Phase diagram of the gold - silver - silicon system

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 7, 1962, 1611-1614.

TEXT: Thermal and microstructural analyses of Au - Ag - Si melts yielded the following results: (1) A narrow strip of a ternary solid Au - Ag - Si solution was found at the Au - Ag side of the diagram. (2) The line of the binary eutectic at approximately 5% by weight of Si connects the two eutectic points of the binary systems Ag - Si and Au - Si. (3) Most of the diagram represents mechanical binary mixtures of solid Au or Ag-base α-solution and an Si-base β-phase, or liquid phase + α-phase, or liquid phase + β-phase. (4) Between the binary mixtures lies the small triangle of a ternary region liquid + α + β. (5) The crystallization temperature of the binary eutectic drops as the Si content increases, e.g.: (% by weight) 10 Au + 80 Ag + 10 Si starts crystallizing at 826°C whereas 10 Au + 10 Ag + 80 Si crystallizes at 553°C. There are 3 figures and 1 table.

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Phase diagram of the...

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B101/B144

SUBMITTED: September 20, 1961

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GRIGOR'YEV, A.T.; KUPRINA, V.V.

Alloys of chromium with iron and cobalt. Zhur. neorg. khim. 8 no.10:2351-2354 O '63. (MIRA 16:10)

(Chromium-iron-cobalt alloys)

GRIGOR'YEV, A.T.; KUPRINA, V.V.

Alloys of chromium with iron and nickel. Zhur. neorg. khim. 8 no.11:2563-2565 N '63. (MIRA 17:1)